



ALIGNMENT

IF TRANSFORMER ALIGNMENT AND METER ZERO ADJUSTMENT

Equipment Required: An amplitude modulated RF signal generator and an AC voltmeter.

- () Set all front panel controls as follows:

AF GAIN	12 o'clock
RF GAIN	Maximum clockwise
BFO TUNE	12 o'clock
BAND Switch	80 meters
MAIN TUNING	3.5 mc
ANL	OFF
AVC	OFF
BFO	OFF
CAL	OFF
STBY-REC	REC

- () Connect a jumper wire from lug 9 of tube socket V2 to lug 1 of terminal strip Q. This disables the oscillator for IF transformer alignment.
- () Connect one lead of the AC voltmeter to lug 1 of Speaker jack BA on the rear apron. Connect the other test lead to ground.
- () Make sure that the speaker is still connected to the Speaker jack.
- () Connect the positive or hot lead of the signal generator to the center lug of the ANTenna connector on the rear apron.
- () Turn all of the equipment on and let it warm up for approximately 30 minutes to stabilize all circuits.
- () Place the meter on the 3 or 5 volt range and set the generator for a high output level. The output of the generator should be reduced as the alignment procedure increases the sensitivity of the Receiver to keep the meter reading at approximately 1-1/2 volts.
- () Start alignment of the IF transformer by adjusting the signal generator for maximum indication on the meter. The generator reading at this time may be slightly above or below the 1682 kc IF frequency.

- () Adjust the bottom slug of the IF transformer T3 for maximum meter indication. Then adjust the top slug of T3 for a maximum indication. Proceed to transformer T2 and adjust the bottom slug for a maximum indication, then adjust the top slug.
- () Adjust the top slug of T1 for a maximum indication, and then adjust the bottom slug.
- () Adjust the signal generator frequency for a maximum meter indication. Then repeat the above IF transformer alignment steps.
- () Repeat the entire procedure described above, each time adjusting the signal generator until further adjustment does not cause an increase in meter reading.

Refer to Figure 2 for the locations of the transformers called for in the following steps.

- () Place the BFO switch in the ON position. Turn the modulation switch on the signal generator to off. Turn the slug in the BFO coil until you obtain a zero beat. Be sure that the BFO tuning knob is in the 12 o'clock position and that the signal generator is peaked for maximum voltage reading.
- () Rotate the BFO tuning knob each side of the 12 o'clock position. For the same amount of rotation in each direction, the tone should be the same frequency except at the extreme clockwise and counterclockwise positions, where there is nonlinearity of the variable capacitor. If the tone is not the same frequency, readjust the BFO coil.
- () Turn the BFO switch to OFF and turn the modulation of the generator on.
- () This completes the alignment of the IF stages in your Receiver. Disconnect the test equipment and remove the jumper wire from lug 9 of tube socket V2 to lug 1 of terminal strip Q.
- () Temporarily place a short from the center lug of the ANTenna connector to ground with a screwdriver.



() Set all front panel controls as follows:

AF GAIN Maximum clockwise
 RF GAIN Maximum clockwise
 BFO TUNE 12 o'clock
 MAIN TUNING As indicated in Alignment chart.
 BAND Switch As indicated in Alignment chart.
 BFO OFF
 ANL OFF
 AVC OFF
 STBY-REC REC
 CAL RESET 12 o'clock
 ANT TRIM 12 o'clock

() Connect the RF signal generator to the ANT-enna connector.

() Connect the AC voltmeter across the Speaker jack.

() Complete each step as indicated in the following chart. Refer to Figure 3 for the location of each coil. Be sure to keep the signal generator level as low as possible while still obtaining a usable reading of the meter, this should be just above the normal noise level.

FRONT END ALIGNMENT CHART

BAND SWITCH POSITION	RECEIVER AND GEN. FREQ.	ADJUST FOR MAX	SECTION BEING ADJUSTED
80 meters	3.50 mc	L11 *	Oscillator
	3.75 mc **	L1 and L6	Antenna and mixer coils
40 meters	7.00 mc	L12 *	Oscillator
	7.15 mc **	L2 and L7	Antenna and mixer coils
20 meters	14.00 mc	L13 *	Oscillator
	14.15 mc **	L3 and L8	Antenna and mixer coils
15 meters	21.00 mc	L14 *	Oscillator
	21.25 mc **	L4 and L9	Antenna and mixer coils
10 meters	28.00 mc	L15 *	Oscillator
	29.00 mc **	L5 and L10	Antenna and mixer coils

*There will be no signal heard until these coils are peaked near the correct setting. Once the correct setting is found, carefully adjust for a maximum reading.

**Set the Receiver and generator frequency as indicated in the chart and adjust the CAL RESET until the signal is heard.